28 February 2019

Jeff Bulfin
Precise Planning
PO Box 426
Northbridge, NSW 1560

Dear Jeff

108 Silverwater Road, Silverwater – Traffic & Parking Assessment

ptc. has been engaged by Precise Planning, on behalf of the client, to provide a traffic and parking assessment in relation to the existing development at 108 Silverwater Road, Silverwater.

The subject site currently operates as a Place of Public Worship (PPW) with its associated ancillary activities across three levels of the building, and has a gross floor area (GFA) of 3,593.9m^2:

- Ancillary office space: 2,098.7m^2 GFA
- Warehouse: 1,495.2m^2 GFA

The location of the site is shown in Figure 1.

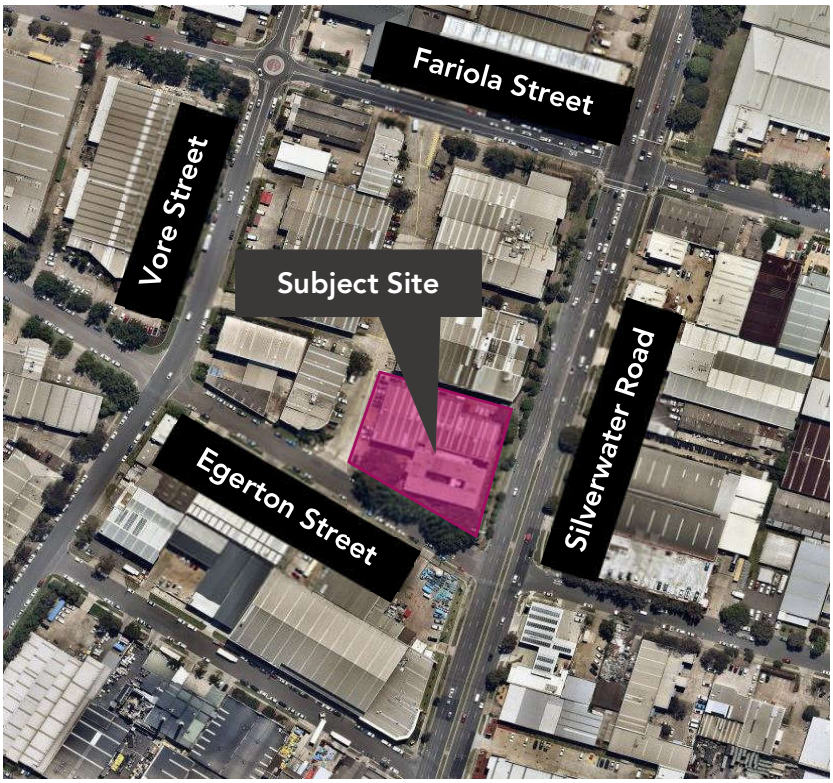

Figure 1 - Aerial View of Subject Site & Surrounds (Source: Nearmap)

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A traffic and parking assessment had been undertaken by ptc. on 13th November 2018 and a meeting with Parramatta City Council was conducted on 24th January 2019 to discuss the assessment and finding. The following issues and key actions were raised by Council during the meeting:

- Reassessment of the traffic generation by making relative comparisons with other permissible uses at this site;
- Undertake a relative comparison of existing and forecast vehicular activities (e.g. heavy and light vehicles etc.);
- Include a trip distribution and assignment diagram; and
- Justify why a cumulative traffic impact assessment will not be required for this traffic assessment.

This statement has been prepared in response to the above points.

1.1 Development Proposal

The development proposes to amend the Auburn Local Environmental Plan (LEP) 2010 to insert office premises into Schedule 1 of the LEP as an additional permitted use, such that the ancillary office space associated with the subject development can function separately and independently as an office premise.

The development proposal will not involve any structural amendments to the existing building, changes to the existing gross floor area (GFA) or the provision of additional parking spaces.

The subject site is currently located within a General Industrial Zone (IN1) which permits the following land uses:

- Depots
- Freight Transport Facilities
- Garden Centres
- General Industries
- Hardware and building supplies
- Industrial training facilities
- Kiosks
- Light Industries
- Markets
- Neighbourhood shops
- Places of public worship
- Restaurants or cafes
- Roads
- Warehouse or Distribution Centres

The Auburn Local Environmental Plan 2010 prohibits the use of the ancillary office spaces as office spaces independent of the PPW. As such, a planning proposal has been submitted to Council for a Schedule 1 Amendment. As part of the Response to Planning Proposal, the Council has requested a traffic and parking assessment to be conducted to address the implications of such a change.

1.2 Revised Traffic Impact Assessment

1.2.1 Traffic Generation

The existing and potential traffic generation associated with the subject site has been estimated with reference to the following:

- RMS Guide to Traffic Generating Developments 2002 (RMS Guide)
- RMS Technical Direction 2013/04 (TDT)

A comparison has been made between the potential traffic generation associated with office spaces and some of the permissible land uses outlined in Section 1.1. The rates for each land use are as follows:

- Office block: 1.6 trips per 100m^2 GFA
- Hardware and building supply stores: 5.6 trips per 100m^2 GFA
- Restaurants: 5 trips per 100m^2 GFA

The following table compares the potential traffic generation associated with each land use.

Table 1 - Potential Traffic Generation

Land Use	GFA	Rate	Traffic Generation
Office block	2,098.7m^2	1.6 trips/ 100m^2 GFA	34 trips
Hardware and building supply stores	2,098.7m^2	5.6 trips/ 100m^2 GFA	118 trips
Restaurants	2,098.7m^2	5 trips/ 100m^2 GFA	105 trips

When comparing the traffic generation associated with the office blocks and other permissible land uses (e.g. hardware and building supply stores or restaurants), the proposal will generate significantly less peak hour traffic.

Moreover, land uses such as hardware and building supply stores, light industries, depots, freight transport facilities and warehouses typically more reliance on heavy vehicles, compared to office blocks which predominantly served by light vehicles. Research conducted by ARRB on behalf of RMS shows that typically saturation flow factor for heavy vehicles is typically 1.5 to 2 (PCU/veh) of light vehicles.

When considering that the site is primarily serviced by Silverwater Road, which is a major arterial road, an additional 34 trips to the network is anticipated to have no adverse impact to the surrounding road network. Further analysis is undertaken in the following section.

1.2.2 Tube Count Results

In order to conduct a more robust assessment, a tube count was conducted along Egerton Street, near the driveway entry into the proposed site (see Figure 2).

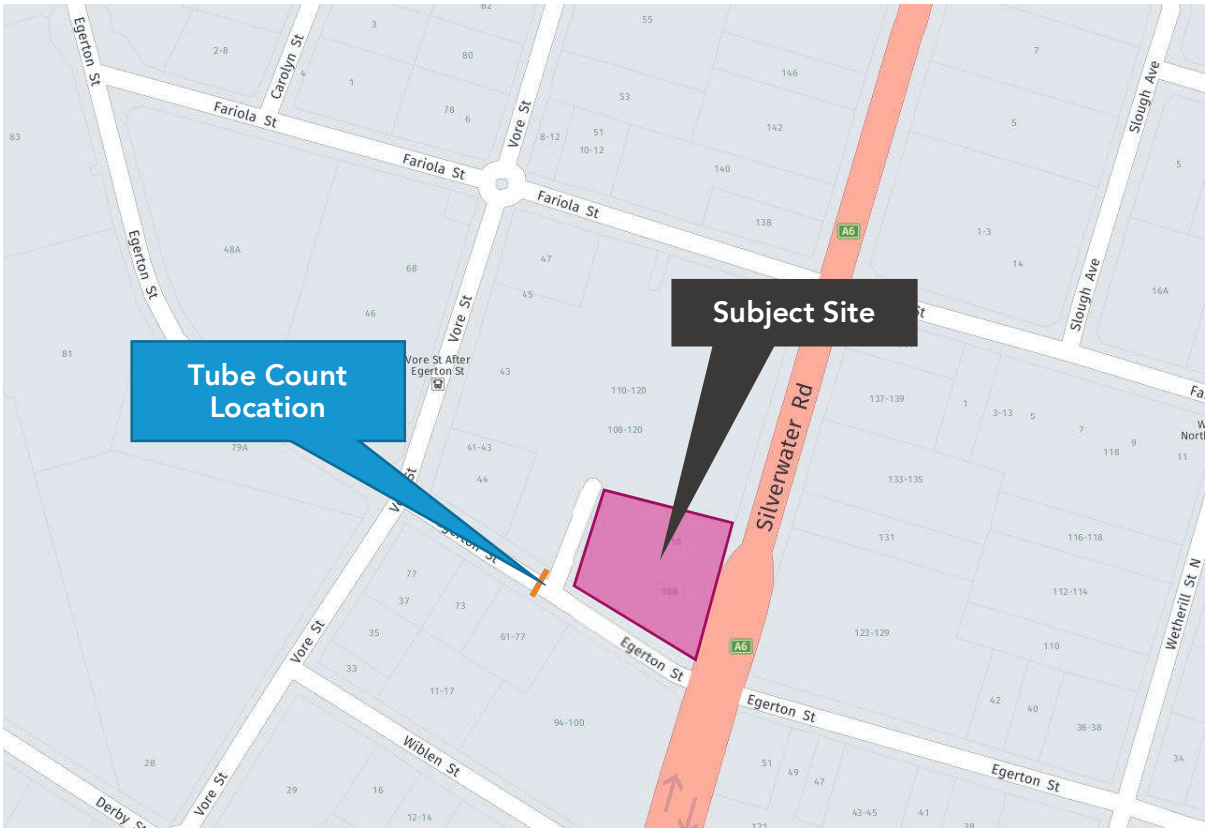


Figure 2 - Tube Count Location

The count was undertaken over a seven (7) day period (24 hours a day) between 4th February 2019 and 10th February 2019 (inclusive). The results of the count are summarised in the table below.

Table 2 - Tube Count Results

	Eastbound	Westbound	Combined
Five Day AADT[1]	263	267	530
Seven Day AADT	215	218	433

Detailed results are provided in Attachment 1.

When adopting a five-day AADT of 530 vehicles, this is equivalent to approximately 53 vehicles in the peak hours (assuming 10% of the daily traffic) along Egerton Street, between Silverwater Road and Vore Street.

The RMS Guide suggests that a collector road in a residential precinct should have a desirable peak capacity of approximately 300 vehicles per hour and a maximum peak capacity of 500 vehicles per hour. Considering that the subject site is within an industrial precinct, the capacity of the road network would be higher than those associated with the residential precinct. Nevertheless, the tube count results indicate that there is more than enough spare capacity to accommodate the additional traffic generated by the proposal.

[1] Annual Average Daily Traffic

1.2.3 Trip Distribution

Figure 3 presents a summary of the residential locations of workers employed in the Parramatta LGA. This is based on 2016 Census data compiled in map format by profile id[2]. As illustrated, the majority of workers in this work and reside within the Parramatta LGA, with notable numbers of employees travelling from adjacent LGAs such as Blacktown, Cumberland, and The Hills Shire. These proportions inform the indicative traffic distribution.

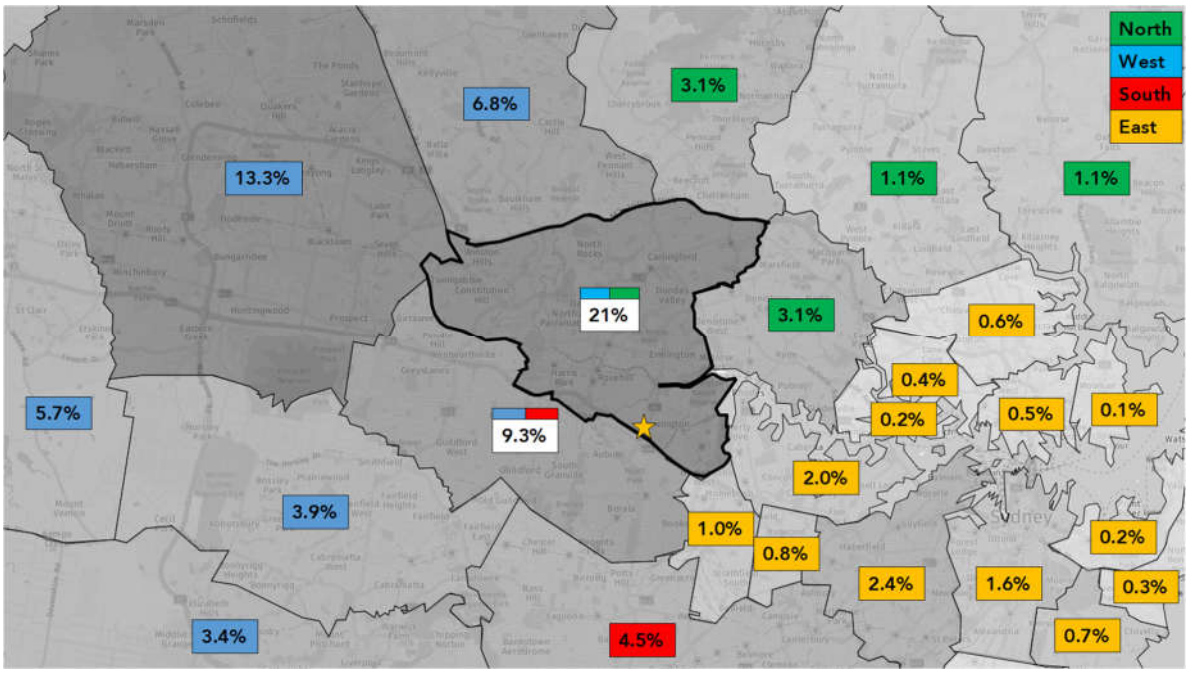


Figure 3 - Workers Place of Residence (Source: profile id)

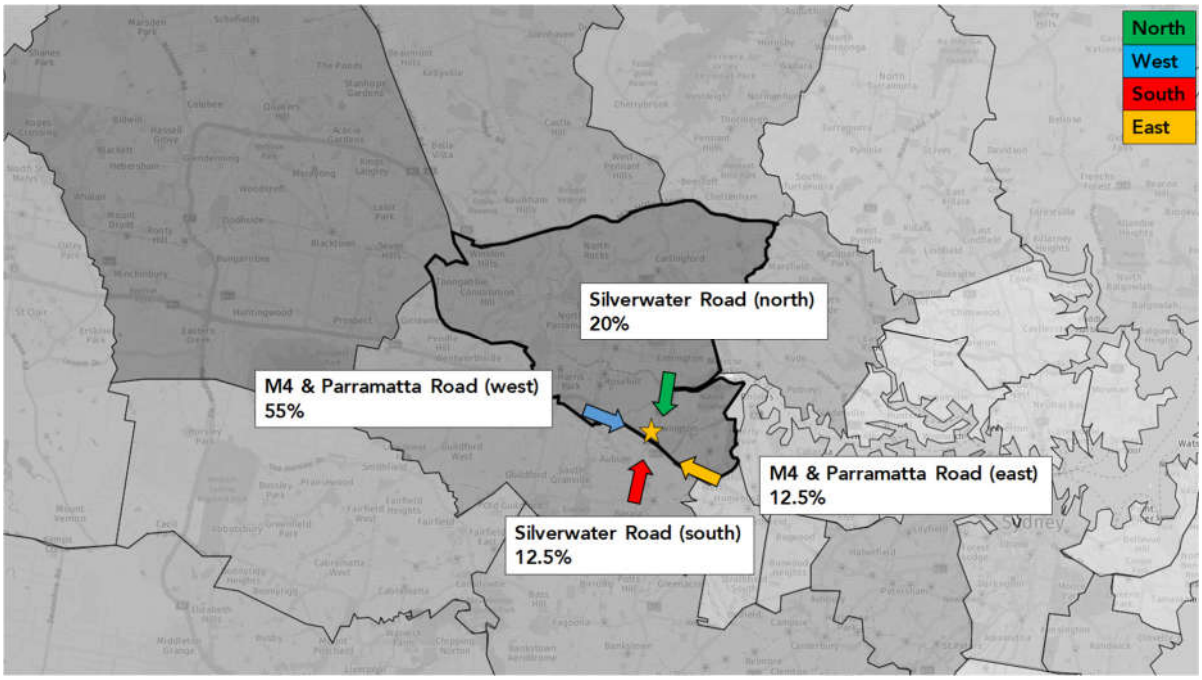


Figure 4 - Origin of Travel for employees working in Silverwater (Source: profile id)

[2] https://profile.id.com.au/parramatta/workers

The journey to work data has been used to derive the most likely routes undertaken by employees to and from the site. The major arterial roads providing access to the site are Silverwater Road, Parramatta Road, and the M4 motorway. Figure 4 illustrates the distribution of employees along each of these major arterials. Surrounding LGAs have been roughly grouped by their location in regard to the site to determine which arterial primarily services each LGA.

As the proposed use is an office, it may be assumed that during the AM peak, 100% of trips will be inbound and during the PM peak, 100% of trips will be outbound. This provides the most conservative estimate.

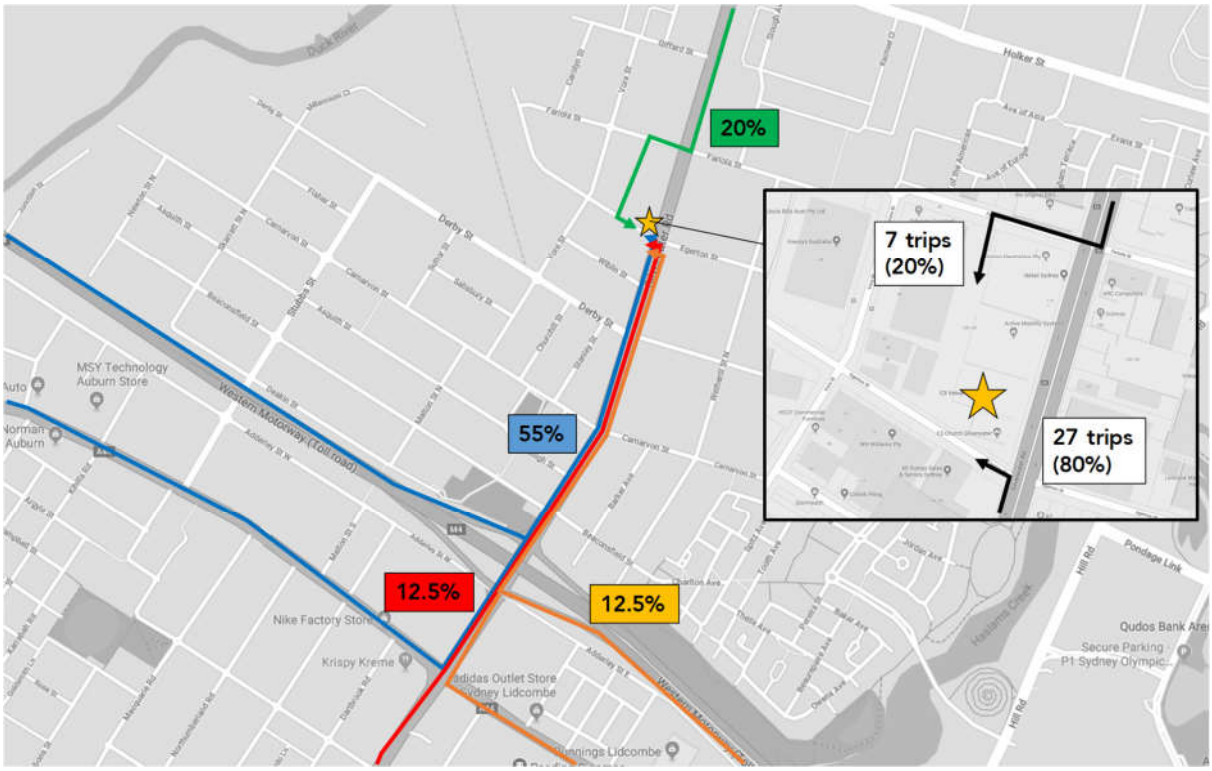


Figure 5 - Inbound Trip Distribution

The inbound movements are illustrated in Figure 5. Those arriving from the west (along Parramatta Road and the M4), the south (along Silverwater Road) and the east (along Parramatta Road and the M4) will converge onto Silverwater Road and head northbound towards the site. Access into Egerton Street is directly available via left turn from Silverwater Road. For those approaching from the north, there is no right turn from Silverwater Road into Egerton Road due to the median strip, hence drivers will most likely turn right along Fariola Street and divert around to reach the site. There is a driveway access fronting Fariola Street which employees may access from.

The proposal is envisaged to generate an additional 7 trips turning right into Fariola Street from Silverwater Road and 27 trips turning left into Egerton Street from Silverwater Road in the AM peak period.

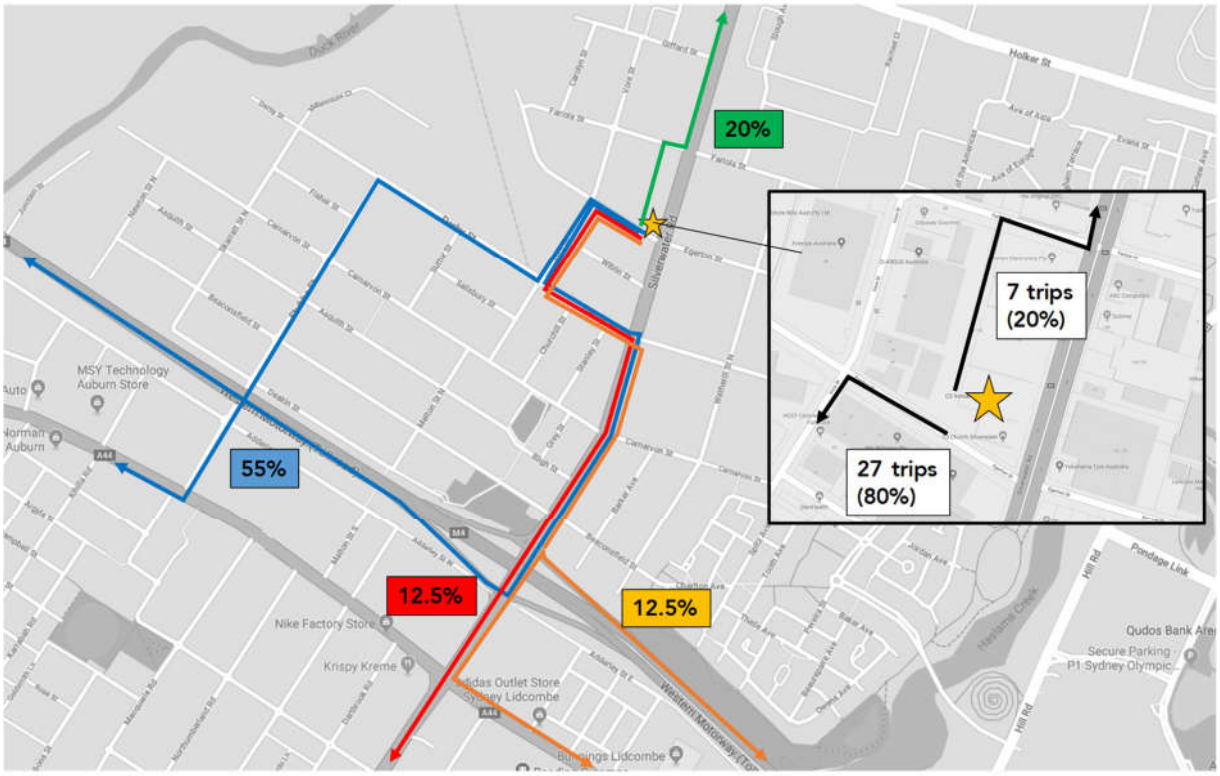


Figure 6 - Outbound Trip Distribution

Figure 6 depicts the outbound movements for the development. Those departing northbound take a similar route to the inbound movement, in reverse. For other movements, no right turn is directly available from Egerton Street, hence employees may divert around Vore Street and Derby Street to gain access to the main arterial roads. Note that for simplicity, it is assumed the majority of drivers turn right at the Silverwater Road / Derby Street intersection. Right turns are also permissible from other nearby roads such as Fariola Street and Carnavon Street and it would be expected that a proportion of drivers would choose to do so, dispersing the traffic effects of the development.

The proposal is envisaged to generate an additional 7 trips turning left into Silverwater Road from Fariola Street and 27 trips turning left into Vore Street from Egerton Street in the PM peak period.

1.2.4 Traffic Impact Summary

Overall, the proposal is anticipated to have no noticeable impact on the existing conditions of the surrounding road network.

Given the nature of the proposal, a cumulative traffic impact assessment is considered unnecessary. No structural amendments or increase in the existing GFA is proposed. Further, the forecast traffic generation due to the proposal is approximately 34 trips in the peak hours, compared to permissible 118 (by Hardware and building supply store), hence cumulative traffic impact is not necessary.

1.3 Parking Assessment

1.3.1 Parking Requirements

The development is subject to the parking provision rates stipulated in the following planning documents:

- Auburn Development Control Plan (DCP) 2010

The parking requirements, stipulated in the DCP 2010, are summarised below:

- Warehouses: 1 space per 300m^2 GFA
  Ancillary office: 1 space per 40m^2 GFA
- Office premises: 1 space per 40m^2 GFA

Applying the above rates to the proposal results in the following provision requirements outlined in Table 3.

Table 3 - Car Parking Requirement

	Use	GFA	Parking Rate (min)	Parking Requirement (min)	Parking Provided
Existing	Warehouse	1,495.2m^2	1 space/300m^2	5 (4.98)	
	Ancillary Office	2,098.7m^2	1 space/40m^2	53 (52.47)	
			TOTAL (Existing)	**58**	**66**
Proposal	Warehouse	1,495.2m^2	1 space/300m^2	5 (4.98)	
	Office Premises	2,098.7m^2	1 space/40m^2	53 (52.47)	
			TOTAL (Proposal)	**58**	**66**

The loading requirements, stipulated in the Council DCP 2010, are summarised below:

- Warehouses: 1 space per 800m^2 GFA up to 8,000m^2 GFA
- Office premises: 1 space per 4,000m^2 GFA up to 20,000m^2 GFA

It is noted that the Council DCP 2010 does not have specific loading requirements for ancillary office spaces. As such, if the requirements for business/office premises are adopted for the existing ancillary office spaces, this will not generate any additional loading bay requirements.

Currently, the site does not accommodate any specified loading areas. However, considering that the site has an existing parking capacity of 66 spaces, which is 8 more spaces than the minimum requirement, a loading area for waste collection can be allocated if needed. Moreover, courier spaces can also be allocated to support the independent office spaces (for general postal deliveries and servicing such as plumbing/electrical maintenance).

In accordance with the Council DCP 2010, office spaces also have to provide a minimum of 1 bicycle space per 10 employees. When considering that there are no existing tenants using the ancillary office spaces, it is difficult to quantify the number of bicycle spaces required for the proposed development. However, it is understood that bicycle parking facilities can be provided if required.

All bicycle parking facilities must be provided in accordance with the requirements of AS2890.3:2015 – Bicycle Parking Facilities. This could be conditioned as part of the DA approval.

1.3.2 Parking Assessment Summary

In accordance with the Council DCP 2010, the parking requirements for ancillary office spaces and independent office premises are the same (1 space per 40m^2 GFA). As such, it is anticipated that there will be no additional parking demand generated by the development proposal.

As aforementioned, the development currently provides 66 on-site parking spaces. As such, it is anticipated that the proposal to make independent office uses of the existing ancillary office building will have minimal impact on the existing parking capacity and will not affect the existing on-street parking conditions.

2. Conclusion

Our assessment indicates that the proposal to convert the existing ancillary office spaces to independent office premises will generate approximately 34 vehicular trips in the peak hour, which is significantly lower compared to the potential traffic generation associated with permissible land uses, for the equivalent GFA.

There will be no additional parking demand generated by the proposal, and as such there will be no parking impact on the nearby public streets. Therefore, the proposal to make office uses a permissible use on the subject site is endorsed by **ptc.** from a traffic and parking perspective.

We trust the information provided will assist in the assessment of the proposal. If you have any further enquiries relating to a parking or traffic matter, please contact us on (02) 8920 0800.

Regards,

Sunny Hong
Traffic Engineer

Reviewed by

Abdullah Uddin
Senior Traffic Engineer

Attachment 1 Tube Count Data

CfeIT bob.white@cfeit.com (02) 9740 8600

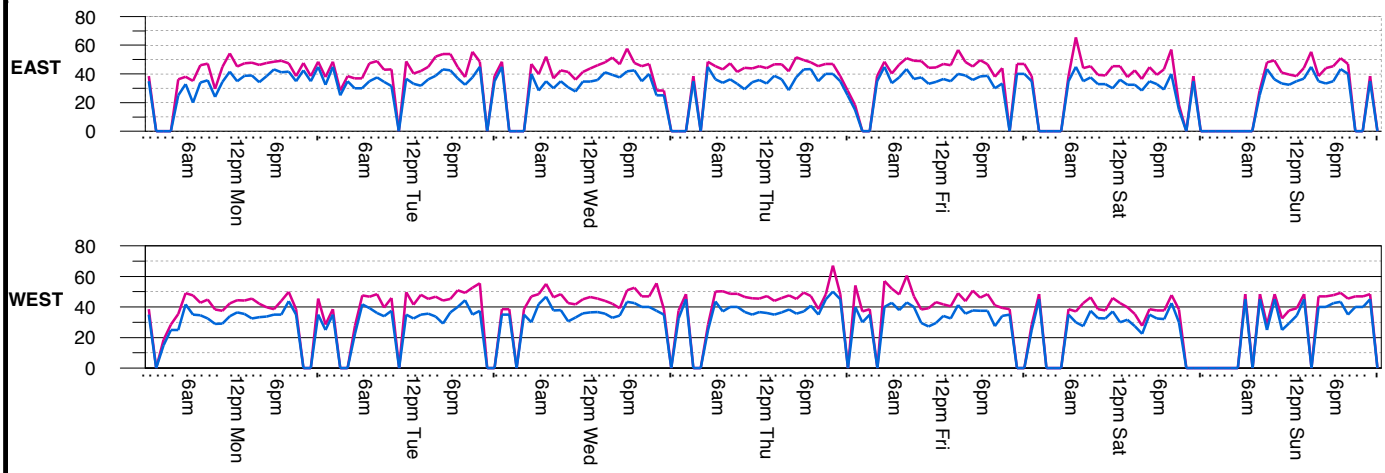
One Page Summary

Count Number	**6917**	**Lat/Long : S33 50.120 / E151 02.752**	**UBD 212 D-12**
Street	**EGERTON STREET, SILVERWATER : Between SKARRATT ST & SILVERWATER ROAD (bidirectional)**		
Location	Midblock east of Vore Street ELP PA01262		

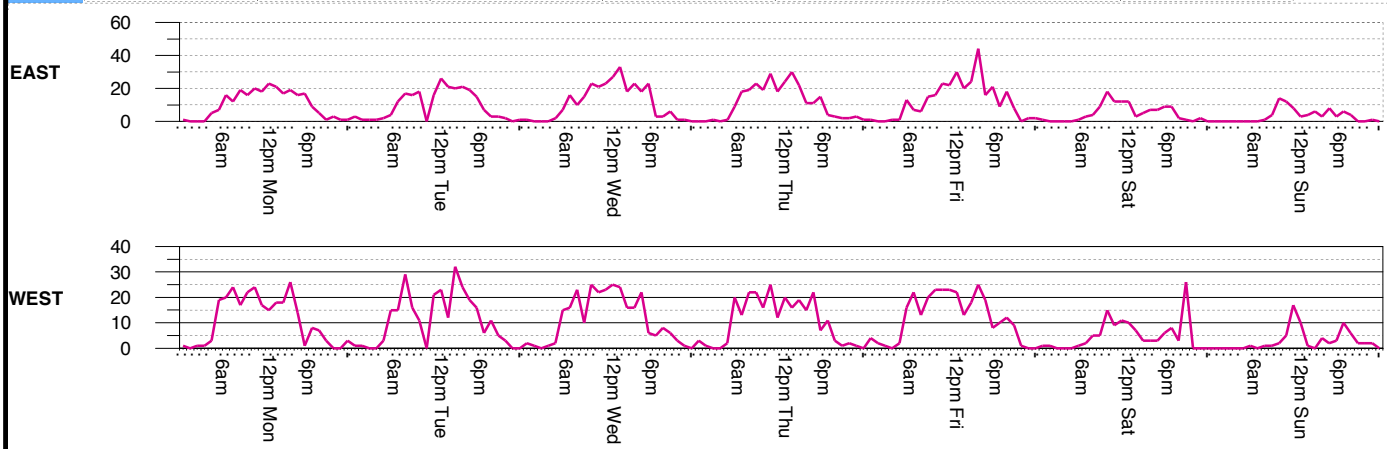
Start Date	04-FEB-19
Start Time	100
Duration	7 DAYS
Interval	1 HOUR

Speed Limit 50	EAST	WEST	COMBINED
Weekly 50th Percentile Speed	**36**	**36**	**36**
Weekly 85th Percentile Speed	**46**	**46**	**46**
Five Day AADT	**263**	**267**	**530**
Seven Day AADT	**215**	**218**	**433**

	MON 04-FEB-19			TUE 05-FEB-19			WED 06-FEB-19			THU 07-FEB-19			FRI 08-FEB-19			SAT 09-FEB-19			SUN 10-FEB-19			SEVENDAY AVERAGE		
	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir
85%ile	46.8	44.1	45.6	47.2	46.8	47.0	46.2	46.4	46.3	45.9	47.4	46.7	47.2	46.5	46.9	43.1	39.7	41.2	46.6	46.4	46.5	46.1	45.3	45.7
50%ile	35.7	34.0	34.8	35.7	35.8	35.8	35.1	36.6	35.9	35.3	37.7	36.5	36.4	35.3	35.9	33.7	32.2	33.0	35.9	35.9	35.9	35.4	35.3	35.4
> 60 k	2	0	2	2	0	2	3	0	3	1	2	3	3	4	7	1	0	1	0	0	0	1.714	.8571	2.571
%age	.8	.0	.4	.9	.0	.4	1.1	.0	.5	.4	.8	.6	1.0	1.4	1.2	.9	.0	.4	.0	.0	.0	.7	.3	.5
> 70 k	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	.1429	.1429
%age	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0



	MON 04-FEB-19			TUE 05-FEB-19			WED 06-FEB-19			THU 07-FEB-19			FRI 08-FEB-19			SAT 09-FEB-19			SUN 10-FEB-19			SEVENDAY AVERAGE		
	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir	EAST	WEST	BiDir
Short %	81.4	72.5	76.8	80.3	77.6	78.9	77.0	81.3	79.1	78.9	82.6	80.7	85.3	76.9	81.2	93.2	86.6	89.8	92.2	92.8	92.5	82.2	79.5	80.8
Med %	18.6	25.6	22.2	18.8	21.3	20.1	22.6	18.0	20.3	19.2	16.2	17.8	14.7	22.0	18.3	6.8	9.2	8.1	7.8	7.2	7.5	17.2	19.2	18.2
Long %	.0	1.9	1.0	.9	1.1	1.0	.4	.7	.5	1.9	1.2	1.5	.0	1.0	.5	.0	4.2	2.1	.0	.0	.0	.5	1.4	1.0
AM Pk Vo	20	24	44	18	29	46	23	25	48	29	25	54	23	23	46	18	15	33	14	17	25	21	23	42
PM Pk Vo	23	26	45	26	32	52	33	25	57	30	22	46	44	25	69	12	26	27	8	10	16	25	24	45
7-7pm	207	204	411	196	209	405	237	217	454	225	207	432	246	217	463	107	85	192	72	56	128	184	171	355
24Hr Tot	247	262	509	229	263	492	274	272	546	265	253	518	299	286	585	117	119	236	77	69	146	215	218	433
Class 0	6	6	12	8	5	13	6	3	9	10	7	17	6	5	11	2	2	4	5	1	6	6	4	10
Class 1	194	183	377	174	198	372	204	218	422	199	200	399	248	215	463	107	101	208	66	63	129	170	168	339
Class 2	1	1	2	2	1	3	1	0	1	0	2	2	1	0	1	0	0	0	0	0	0	1	1	1
Class 3	43	54	97	39	47	86	56	42	98	49	36	85	41	54	95	7	10	17	5	4	9	34	35	70
Class 4	3	13	16	4	8	12	6	7	13	2	4	6	3	9	12	1	1	2	1	1	2	3	6	9
Class 5	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0			
Class 6	0	1	1	1	1	2	0	0	0	1	0	1	0	2	2	0	0	0	0	0	0		1	1
Class 7	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0			
Class 8	0	0	0	0	1	1	0	0	0	1	2	3	0	0	0	0	2	2	0	0	0		1	1
Class 9	0	3	3	1	1	2	1	2	3	2	1	3	0	1	1	0	2	2	0	0	0	1	1	2
Class 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0			
Class 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Class 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Class 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			



Data displayed has been compiled from pneumatic traffic count processes and is subject to the documented limitations